

## EXECUTIVE SUMMARY

Environmental problems exacerbated by natural or man-made events can contribute to regional instability and conflict. Such environmental security related disasters hinder economic progress, displace populations, and facilitate the growth of undesirable elements and the proliferation of weapons of mass destruction. Failure to respond to these events in a coordinated, timely and effective manner impacts a nation's ability to govern and function. For these reasons, environmental security initiatives are key security cooperation vehicles for the United States Central Command (USCENTCOM). Over the past three years, USCENTCOM has conducted four conferences in its area of responsibility. The two Central Asia conferences established the relationships that allowed access to the bases required to fight the war against terrorism. In the Arabian Gulf region, environmental security efforts complement USCENTCOM's Cooperative Defense Initiative (CDI) activities, and offer a valuable venue for regional security cooperation.

The nations of the Arabian Gulf region have a special responsibility because the environmental security of this region is essential to the continued developmental capacity of much of the rest of the world. Successful efforts to prevent, or if necessary, to effectively respond to natural or man-made disasters in this region are of global concern. The Gulf Cooperation Council (GCC) States first addressed these responsibilities at the initial Arabian Gulf Environmental Security Conference conducted in Muscat, Oman in April 2000. This conference identified major concerns and actions perceived as likely to impact military activities in the Arabian Gulf region. Using these identified concerns as focus points, the host, Major General Hamad bin Ali Al-Attia, Chief of Staff of the Qatar Armed Forces, and USCENTCOM, with assistance from the Office of the Deputy Under Secretary of Defense for Installations and Environment (DUSD (I&E)), the National Defense University's Near East-South Asia Center for Strategic Studies (NESA), and the U.S. Army War College Center for Strategic Leadership (USAWC/CSL) conducted the second GCC-U.S. Environmental Security Conference, *Environmental Planning, Prevention And Disaster Response In The Arabian Gulf*, September 15-18, 2002 in Doha, Qatar. Attended by delegations

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from Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates, and Jordan, this event supported the pillars of the new national security strategy: strengthening alliances to defeat global terrorism, deterring WMD threats, and developing agendas for cooperative action.

**Developing the Agenda for Cooperative Action**

It was the goal of this Armed Forces of Qatar-hosted security cooperation conference to design a framework for a regional approach to environmental disaster prevention and response and to put in place a long-term, sustainable process for achieving a regional capability. To achieve the desired endstate, five workshops were convened to identify the specific actions required to implement the major recommendations of the April 2000 conference (Table 1), and to look in detail at managing the health and disease consequences of intentional and accidental environmental events.

In order to provide the background essential for meaningful workshop discussions, moderated panels reviewed the prior environmental security work in the Gulf, and looked at some potential risk scenarios against the threats identified by the conferees at the April 2000 Oman Environmental Security Conference. Building on this foundation, the conferees explored

**“The Role of the Armed Forces in Environmental Security”  
April 16-17, 2000, Muscat, Oman**

**RECOMMENDATIONS**

- 1 Arrive at consensus on a unified definition of the concept of ES and it’s relevant aspects.
- 2 Intensified efforts to exchange “environmental intelligence” and “lessons-learned” from our collective U.S. and GCC experiences.
- 3 Establish a regional monitoring and warning center to notify the national centers in order to help coordinate relief efforts.
- 4 Invite civil authorities from the United States and GCC member states who are involved with the preservation of environment to future seminars.
- 5 Organization of a follow-on seminar designed specifically to address issues of technology development for Environmental Security planning and enhanced mil-to-mil collaboration in technology R&D, weapons acquisition, and table-top command-and-control exercises, and to discuss the proposals and recommendations advanced at the Environmental Security Seminar in Oman.
- 6 Develop specific programs for U.S. – GCC Environmental Security cooperation tailored to the needs of the Gulf States.

**TABLE 1 – MUSCAT, OMAN APRIL 2000 CONFERENCE RECOMMENDATIONS**

in detail, techniques and technologies available to assist in regional monitoring, warning, and information exchange, and the requirements for interagency and multilateral cooperation in successfully addressing disaster prevention, response, and other environmental security interests. These panels included experts from the GCC, Jordan, Turkey, the United Nations, the United Kingdom, and the United States, and directly addressed the challenges of preventing and responding to environmental disasters, including chemical, biological, radiological or nuclear events in the Arabian Gulf region.

## **Opening Remarks**

Major General Hamad bin Ali Al-Attia, Chief of Staff, Qatar Armed Forces welcomed conference attendees and stated the importance of this conference to identify means to plan, prevent, and respond to environmental security disasters.

Brigadier General George J. Trautman III, Deputy Director, Plans and Policy, J-5, United States Central Command, stated the importance of developing a regional response to environmental security issues that are a regional problem, not one nation's. Some of the threats and crises will affect more than one state and most of them cannot be resolved by single government acting alone. He challenged the attendees to identify areas for regional cooperation on Environmental Security issues and the need to learn to plan and respond to a crisis together.

Dr. Kent Hughes Butts, Director, National Security Issues Branch, Center for Strategic Leadership, United States Army War College, addressed the importance of the role of a healthy and productive environment in maintaining regional stability. He reinforced the value of environmental security as a useful and non-threatening approach for achieving closer cooperation between the military and the civilian population, enhancing military support to civil authorities, and improving regional coordination of disaster response.

Ms. Alina Romanowski, Director, Near East-South Asia Center for Strategic Studies, addressed the role of the environment as a strategic asset from a political and economic well-being and protecting the health and vitality of the population. The strategic assets in the region—oil, gas,

water, and population—are all inter-related and underpin the stability and prosperity of the region and make Environmental Security of this region a global concern. The Center brings a broad perspective to assist in the development of a regional approach to these issues.

Mr. Curtis Bowling, Assistant Deputy Under Secretary of Defense for Safety, Occupational Health, and International Environmental Programs, provided the keynote address for the conference. He reinforced the need to address environmental issues in this region since environmental degradation can hinder economic development, displace populations, facilitate the growth of undesirable elements, and potentially the proliferation of the threat of weapons of mass destruction. He challenged the attendees to: set regional objectives; identify means of developing indication and warning of environmental disasters, detecting and tracking environmental events, and sharing relevant information; address a regional command and control for disaster prevention and response; identify regional training and exercise needs for disaster prevention and response; and identify multi-lateral processes to address the health and disease consequences of intentional or accidental events.

## **Security and the Environment**

The initial panel, *Security and the Environment: Regional Approaches*, emphasized the direct relationship between the environmental security of the population and regional stability, promoted environmental cooperation between defense and environmental authorities, and stressed multilateral and interagency coordination opportunities. Additionally, it reinforced the conference objectives and end state through a review of the United States Central Command and Gulf Cooperation Council environmental security efforts in the region. Panel moderator Dr. Kent Hughes Butts, Director, National Security Issues Branch, U.S. Army War College, reviewed the importance of Environmental Security (ES) and its advantages to promoting national and regional security. The military has unique capabilities to address ES issues such as communications equipment, transportation assets, technical expertise, and capability to deploy quickly in response to a disaster.

For the Arabian Gulf states to benefit from Environmental Security, it is important to employ the Armed Forces to protect the environment

and conduct environmental disaster management. Colonel Nasser bin Salim Al-Tamtami, Sultan's Armed Forces of Oman provided a summary of the Oman Conference covering four main topics:

- Environmental Security from the Regional and United States Point of View
- Role of the Armed Forces in protecting the environment and environmental disaster management
- Lessons learned from disasters related to Environmental Security
- Future vision for the Gulf-US military cooperation in protecting the environment in the Region

Interagency and Regional training exercises are important to understand a state's capability to respond to a natural or manmade disaster and determine when additional assets are needed to mitigate the effects of the disaster. Brigadier General Nasser Mohammed Al-Ali, Qatar Armed Forces provided a briefing on "Interagency Training for Disaster Response Exercise" conducted September 2002. The exercise was conducted in two parts; a seminar to identify the roles and missions of the governmental organizations before, during, and after a weapons of mass destruction, and the disaster response exercise at the Al Khalifa Tennis and Squash Complex in Doha. The lessons learned from the disaster response exercise addressed the need for additional protective masks for the civilian population to prevent further contamination, a requirement for chemical detection equipment at the incident site, the need for reference books and publications to increase the knowledge and awareness of WMD, and serums and other decontaminants at the incident site for the treatment of victims prior to transport to hospitals.

## **Potential Risk Scenarios**

The Arabian Gulf Region faces environmental challenges unlike any other region in the world. The regional environmental challenges include: water shortages, hazardous materials and waste, oil spills in the Gulf, shipping incidents, industrial accidents, desertification, environmental terrorism, weapons of mass destruction, regional earthquakes, and transmission of new diseases. Aware of this reality, the nations of the region share a common desire to move to a higher level of

environmental management. Brigadier General Hamad Ali Al-Hinzab, Advisor of Command and Staff Branch, General Headquarters, Qatar Armed Forces, moderated this panel tailored to engage the interests of environment, industry, and defense representatives on environmental management.

Many organizations view industry as a source of environmental pollution. However, industry in many cases takes enormous efforts to reduce the pollution emissions and efforts to mitigate the effects of an incident. Mr. Mohammed Jassim Al-Maslamani, Qatar Ministry of Energy and Director, Safety, Quality and the Environment, Qatar Petroleum Company, discussed the programs and efforts the company has to reduce the possibility of oil spills and efforts to mitigate the environmental damage.

Another example of an industry's efforts to counter contamination is the Qatar General Electricity and Water Corporation's (Kahramaa) water quality monitoring program. The program is focused on reducing water pollution during water production and distribution. This is an important consideration since Kahramaa uses 95% desalinated water in the production and delivery of drinking water. This is an important factor since the majority of the countries use desalination plants to produce fresh water.

Brigadier General (Doctor) Annette L. Sobel, M.D., Assistant to the Chief, United States National Guard Bureau for Weapons of Mass Destruction and Civilian Support, addressed the issue of health and disease response from a weapons of mass destruction and weapons of mass effect from a medical perspective and from a commander's perspective. These weapons impact a military's and civilian's operations from day to day activities and affect national and regional security concerns. She addressed a number of programs available for deployment to different regions to train and educate military and civilian personnel on regional disaster response and trauma system management.

## **Security And Environmental Planning In The 21<sup>st</sup> Century – Regional Monitoring, Warning, And Information Exchange**

Mr. Trevor Hughes, Rice Hughes L.L.C., moderated the panel that explored the processes and mechanisms available to address consequence management planning at a regional level, demonstrated the quality multiplier effects of available information exchange and management tools, and identified opportunities for multi-lateral and inter-agency cooperation. Informational exchange is required to be functional, both at an internal agency level within a single country, and between regional states.

Using the State of New York's structure as an example for Arabian Gulf Cooperation, Lieutenant Colonel Randy Lambrecht, Deputy Director, Operations, Training and Readiness, New York Army National Guard spoke about the integrated federal, state response, focusing on the State of New York's National Guard response to the September 11, 2001 attack on the World Trade Center and how state emergency preparedness has since evolved in New York State.

Dr. Michael Foose, Regional Specialist for Africa and the Middle East, United States Geological Survey (USGS), provided a discussion on the USGS's efforts using remote sensing to mitigate environmental hazards. The USGS uses various types of satellites and seismometers to monitor and track potential environmental disasters. The USGS places this information in a geographic information system (GIS) to assist in monitoring and predicting the effects of a disaster. For example, the USGS, with the assistance of the United States Agency for International Development, National Oceanic and Atmospheric Administration, and 17 African countries, has developed a Famine Early Warning System used to issue warnings on potential famine areas and to focus assistance efforts to mitigate the effects.

Information sharing is critical to effective regional environmental security efforts and disaster response coordination. Ms. Jackie Hux-Cain, representing the Office of the Assistant Secretary of Defense for Installations and Environment, provided a demonstration and training for conference participants on the Defense Environmental Network Information Exchange (DENIX), which is sponsored by her office.



This web-based system is a significant resource of environmental security information.

DENIX information and tools have been made available in the Eastern Hemisphere through the Partnership for Peace Information Management System (PIMS). PIMS facilitates the 23 Partnership for Peace areas of cooperation, including civil emergency planning, crisis management, medical, and military geography among others.

## **Cooperation Between Defense And Other Agencies**

Rear Admiral (Retired) John F. Sigler, Near East-South Asia Center for Strategic Studies, addressed two common themes on Environmental Security. Natural or manmade disasters can have a significant impact on national and regional security, and prior planning, preparation, and information sharing is critical to have an adequate response. He moderated a panel that examined the importance of prior planning, preparation and execution, and coordination between military and civil organizations.

Brigadier General Craig T. Boddington, Commander, Combined Joint Task Force-Consequence Management, Kuwait reviewed a nation's response to a disaster and the functions that may have to be performed by the host nation. The United States Central Command, a USCENTCOM initiative, created the Combined Joint Task Force to reinforce a host nation's response to a disaster. He described the Joint Task Force's capabilities, ability to reinforce the host nation, organization, equipment, and most important, the request channel for assistance.

Using the Middle East Peace Process and Middle East Regional Cooperation Program as examples, Mr. Paul Malik, Director, United States Department of State's Regional Environmental Hub in Amman, Jordan, discussed the integrated governmental and non-governmental response to promoting regional cooperative initiatives in the Middle East. These programs promote sustainable development and improve the quality of life of the citizens of the participating countries. These programs continue despite the tensions in the Middle East. He discussed the need for sustainable development through environmental stewardship

and the threat to local and national governments that may occur through environmental degradation.

Addressing national and regional cooperation, Dr. Mustafa Erdik, Chairman, Earthquake Engineering Department, Bogazici University, Istanbul, Turkey, used the Turkish disaster management system as the vehicle for discussing the integrated national and regional response to the Kocaeli Earthquake Disaster in August 1999, and how national and regional emergency preparedness has since evolved in Turkey. The events of August 1999, and the destabilizing effects of the natural disaster are major concerns and have driven Turkey to create and refine government institutions, introduction of community training, the installation of an earthquake rapid response and early warning system, and improved the military's capability to conduct search and rescue operations.

Dr. Abdul Wahab Al-Mosleh, Assistant Medical Director, Hamad Medical Corporation, closed out the discussion with a discussion of medical response to a disaster. Dr. Al-Mosleh described the principles of disaster management and the common objectives for individuals and governmental agencies involved in crisis management. He focused his presentation on the roles and actions of the medical service teams during the disaster.

## **Multilateral Approaches To Security Cooperation On Environmental Issues**

Mr. Curtis Bowling, Assistant Deputy Under Secretary of Defense for Safety, Occupational Health and International Environmental Programs, addressed multilateral approaches to security cooperation and moderated a panel that addressed cooperation between defense and environmental authorities, identified opportunities for multi-lateral and inter-agency cooperation, explored the processes and mechanisms available to address consequence management planning, and described the practical application of information-age tools to enhance disaster response and consequence management planning.

Mr. Gary Barrett of the Office of Foreign Disaster Assistance (OFDA), United States Agency for International Development, provided a discussion of OFDA's efforts and responsibilities for the coordination

of the United States Government's non-military response to international disasters. OFDA has a key role in consequence management to provide humanitarian assistance to victims or populations affected by a weapons of mass destruction event, to provide financial and/or technical support in characterization, remediation, and guidance to host nation and U.S. mission, field personnel, non-governmental organizations, and other agencies, and to participate in interagency planning and exercises.

Mr. Pekka Haavisto, Chairman of the Afghanistan Task Force, United Nations Environment Program (UNEP), provided a discussion on UNEP's efforts on investigating the environmental impacts of conflicts, recommending strategic priorities for cleanup and remediation, strengthening the capacity of authorities for environmental management and protection, as well as catalysing and mobilising international support for environmental projects.

Mr. Khalid Al-Ali, Secretary General, Supreme Council of Environment and Natural Reserves in Qatar explained the roles and objectives, major water and air monitoring programs, and environmental tracking and assessment mechanisms of The Supreme Council for the Environment and Natural Reserves (SCENR) in maintaining the environment. The SCENR has established international links and the national point of contact to international and regional organizations and conventions on environmental issues.

Brigadier General (Doctor) Mohammed Al-Abbadi, Director, Field Medicine, Royal Jordanian Medical Service, closed out the discussion with a presentation on consequence management from a medical perspective, focusing on the management of a multiple casualty incident (MCI).

## **Building a Regional Capability Framework**

In order to develop a regional framework for environmental disaster prevention and response, conference participants addressed critical environmental security issues in five workshops that were formed under the following charters:

- Defining Environmental Security And Setting Regional Approach Objectives

- Environmental Security Intelligence, Detection, And Information Sharing
- Regional Center/Command And Control
- Regional Training And Exercises
- Managing Health And Disease Consequences

The results of the workshop deliberations are summarized below:

## **Defining Environmental Security And Setting Regional Approach Objectives**

An effective program requires three major actions. First, that the Environmental Committee of the Gulf Cooperation Council be a focal point for coordinating regional environmental security approaches; second, that the Gulf nations establish the foundation for a sustainable environmental security program by maintaining continuity and building capacity and expertise by developing a core group of environmental security experts both in their militaries and their civilian agencies; and, finally, that momentum is maintained by convening a GCC-US Executive Committee to set objectives and agenda for a follow-on conference.

## **Environmental Security Intelligence, Detection, And Information Sharing**

To achieve the necessary consensus and identify existing and required organizational mechanisms for sharing information, GCC countries must conduct studies to refine and prioritize environmental threats and then establish the required network between nations to share this vital information.

## **Regional Environmental Center/Command And Control**

The key mechanism for putting in place a long-term, sustainable process is the establishment of a regional interagency environmental response coordination center for preventing and responding to natural and manmade disasters and to share operational information. It should be the goal to obtain approval for the establishment of the regional center at the 2003 GCC Summit.

## **Regional Training And Exercises**

Environmental events that may require a military response or military support are often key to military ops. While many skills learned in traditional military individual and unit-level training are applicable to these missions, there are also specialized skills involved that require additional training. To meet these requirements the GCC must develop regional environmental security contingency plans. With such plans in place it will be possible to identify existing capabilities and shortfalls, and then to program the additional resources, training and exercises required.

## **Managing Health And Disease Consequences**

The nature of both manmade and naturally occurring health and disease crises is that they are transboundary. National and regional security can be significantly affected by consequences of intentional or accidental health crises. To respond to this challenge the workshop recommended including Health and Disease Consequence Management in environmental security forums, and proposed convening a Medical Surveillance Workshop in 2003 in Jordan to promote multi-lateral information exchange and network of experts applicable to medical aspects of environmental security.

## **Establishing a Sustainable Process: The Way Ahead**

Taking the workshop products and turning them into a workable plan was the responsibility of the Executive Committee (EXCOM) made up of the heads of the participating delegations. The EXCOM's role was to develop recommendations to the GCC Armed Forces and USCENCOM on ways to enhance environmental security planning, prevention, and disaster response in the Arabian Gulf. The EXCOM identified four necessities required to explore the conditions for a long-term, sustainable process for achieving a regional capability: effectively activate the Armed Forces of the GCC Environmental Committee resulting from the OMAN Conference; create a larger role for the GCC Secretariat General; increase military - civilian agency cooperation; and schedule follow-on activities that will generate tangible results.

To implement these actions, the EXCOM agreed to conduct a third conference, ESC III, within 18 months. Guidance on the processes and substance of the conference will be provided by the EXCOM, which will meet at least two times prior to the event. The first meeting of the EXCOM will occur in 2003 and include presentations on the GCC Secretariat's and each country's interagency approach to environmental disaster response. The EXCOM agreed on the necessity of establishing a Regional Environmental Security Center based upon a well-defined charter. The Center will establish procedures for a broad GCC response to any regional environmental crisis, leverage the Eagle Resolve/CDI Coordination Center, and reflect common terms of reference and the approval of national leadership.

## **Future Plans**

At the conclusion of the conference, General Tommy R. Franks, Commander, United States Central Command, challenged the attendees to resolve how to use the Executive Committee to its maximum ability and to determine if the Gulf Region wants to establish a Regional Coordination Center to manage and think about environmental issues in the years ahead.

Major General Hamad bin Ali Al-Attia, Chief of Staff, Qatar Armed Forces, emphasized that the responsibility for protecting the environment is not limited to one group or one authority, but is the responsibility of all individuals in every society. He stressed that we are all required to make the extra effort, to find the most suitable method, and to adopt the rules and regulations that help make this task easier. Finding these methods will come only through working, holding seminars and conferences, and exchanging expertise. This expertise should then be developed practically by establishing joint centers that take care of the environment. He closed by accepting that the opinions expressed during the conference deserved the greatest attention from the regional representatives, who need to take them seriously and implement them.

Meeting participants agreed to hold another regional Environmental Security Conference in 18-24 months. The country host and location remains to be determined.

